Third United Nations International Conference on the Peaceful Uses of Atomic Energy

A/CONF.28/A/383
USSR
February 1964
Original: RUSSIAN

Confidential until official release during Conference

Abstract

USE OF ISOTOPES FOR QUANTITATIVE INVESTIGATION OF ATMOSPHERE MOVEMENT

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The study of distribution of radioactive substance in the lower air layers of the earth atmosphere conducted in various geographic points has given important information on some large-scale processes taking place in the atmosphere.

Materials of 11 ocean expeditions collected between 1958 and 1963 and continental data made it possible to study:

1. general meridional circulation of atmosphere;
2. intercommunication between concentration of radioactive substances and atmospheric pressure;
3. air masses exchange between hemispheres;
4. certain characteristics of the air masses exchange between troposphere and stratosphere;
5. influence of ocean and land surfaces upon air masses exchanges between the troposphere and stratosphere;
6. the role of metereological fronts, as the demarcation line of various air masses.

Translation provided by courtesy of the submitting Government